Draft Environmental Assessment

Elmwood/Clearview Drainage Improvement Project, Metairie, LA

Jefferson Parish, Louisiana
HMGP 1603-0376

FEMA-1603-DR-LA

June 2010

FEMA

U.S. Department of Homeland Security
New Orleans Recovery Office

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APPENDICES

LIST OF ACRONYMS

ABFE	Advisory Base Flood Elevation
ACHP	Advisory Council on Historic Preservation
BMP	Best Management Practices
CAA	Clean Air Act
CBRA	Coastal Barrier Resources Act
CBRS	Coastal Barrier Resources System
CFR	Code of Federal Regulations
CFS	Cubic Feet per Second
CUP	Coastal Use Permit
CWA	Clean Water Act
CZMA	Coastal Zone Management Act
DA	Department of the Army
DFIRM	Digital Flood Insurance Rate Map
EA	Environmental Assessment
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FONSI	Finding of No Significant Impact
FPPA	Farmland Protection Policy Act
FWCA	Fish and Wildlife Coordination Act
GOHSEP	Governor's Office of Homeland Security and Emergency Preparedness
H&H	Hydraulic and Hydrology
LCRP	Louisiana Coastal Resource Program
LDAF	Louisiana Department of Agriculture and Forestry
LDEQ	Louisiana Department of Environmental Quality
LFD	Letter of Final Determination
LDNR	Louisiana Department of Natural Resources
LDWF	Louisiana Department of Wildlife and Fisheries
LPDES	Louisiana Pollutant Discharge Elimination System
MSL	Mean Sea Level
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NFIP	National Flood Insurance Program
NGVD	National Geodetic Vertical Datum
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NRHP	National Register of Historic Places
NRCS	Natural Resources Conservation Services
OPA	Otherwise Protected Area
OSHA	Occupational Safety and Health Administration
PDFIRM	Preliminary Digital Flood Insurance Rate Map
RCRA	Resource Conservation and Recovery Act

RHA	Rivers and Harbors Act
SDWA	Safe Drinking Water Act
SELA	Southeast Louisiana Urban Flood Control
SHPO	State Historic Preservation Office/Officer
SSA	Sole Source Aquifer
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
VRP	Voluntary Remediation Program

1.0 INTRODUCTION

1.1 Project Authority

Hurricane Katrina, a Category 4 hurricane with a storm surge above normal high tide levels, moved across the Louisiana, Mississippi and Alabama gulf coasts on August 29, 2005. Maximum sustained winds at landfall were estimated at 140 miles per hour. President Bush declared a major disaster for the State of Louisiana due to damages from Hurricane Katrina and signed a disaster declaration (FEMA-1603-DR-LA) on August 29, 2005, authorizing the Department of Homeland Security's Federal Emergency Management Agency (FEMA) to provide federal assistance in designated areas of Louisiana. FEMA is administering this disaster assistance pursuant to the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act), PL 93-288, as amended. Section 406 of the Stafford Act authorizes FEMA's Hazard Mitigation Program to provide funds to states and local governments to implement long-term hazard mitigation measures after a major disaster declaration.

This draft Environmental Assessment (EA) has been prepared in compliance with the National Environmental Policy Act of 1969 (NEPA); the President's Council on Environmental Quality regulations implementing NEPA (40 CFR 1500-1508); and FEMA's regulations implementing NEPA (44 CFR 10.9). The purpose of this EA is to analyze potential environmental impacts of a proposed project at the Elmwood/Clearview Drainage Improvement Project in Metairie, Louisiana. FEMA will use the findings in this EA to determine whether to prepare an Environmental Impact Statement (EIS) or a Finding of No Significant Impact (FONSI).

1.2 Project Location

Jefferson Parish is located in southeastern Louisiana. It is approximately 415,360 acres (649 square miles), of which 236,416 acres is land and 178,944 acres are water areas. It is bordered to the east by Orleans and Plaquemines Parishes, to the south by the Gulf of Mexico, to the west by St. Charles and Lafourche Parishes, and to the north by Lake Pontchartrain. The City of Metairie is located on the Eastbank of Jefferson Parish, with approximately 132,569 people, according to 2006-2008 U.S. census figures. Metairie is located approximately 5 miles from New Orleans, Louisiana and 65 miles from Baton Rouge, Louisiana. The project is located in the western portion of Metairie, Louisiana, Jefferson Parish (Figures 1 and 2). The project is located approximately 1.5 miles from the Mississippi River and approximately 3 miles from Lake Pontchartrain (Figure 1). The proposed drainage improvements in the St. Peter's Ditch would begin at the intersection of Canal #5 (also known as the West Metairie Canal) and St. Peter's Ditch (29.983089. -90.184688) and end of the intersection of the Cross Canal and St. Peter's Ditch (29.970851, -90.181272). The proposed pump station would be located west of the existing pump station adjacent to the St. Peter's Ditch. The proposed earthen berm would be located south of the Cross Canal along the Earhart Expressway and would begin at west of the proposed pump station (29.969817, -90.189935) and would end near the Camp Plauche Ditch (29.969018, -90.191571). The project is located within Township T12 S, Range R10E, Section 44.

Figure 1: Site Location in Metairie, Jefferson Parish, Louisiana

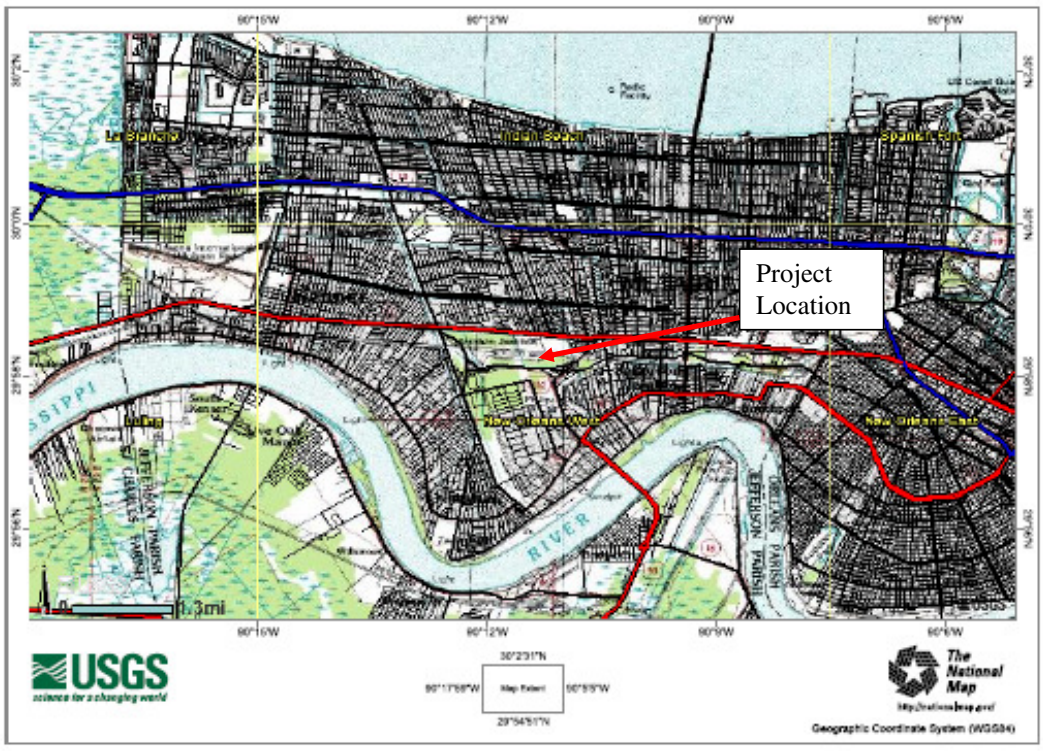
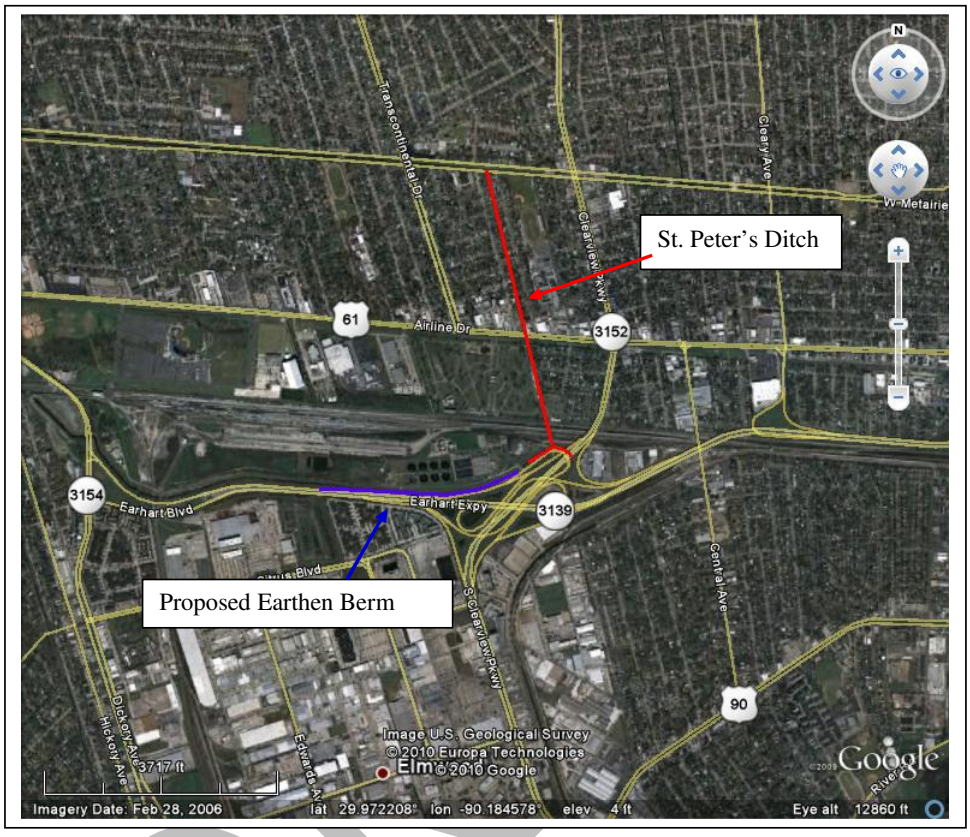


Figure 2: Proposed Project Location



2.0 PURPOSE AND NEED

On August 29, 2005, storm surge caused by Hurricane Katrina inundated large portions of southeastern Louisiana causing extensive flood damage to structures in Jefferson Parish. Jefferson Parish proposes to construct drainage improvements for the Elmwood/Clearview area to reduce flooding damage in the area. Clearview Parkway between the Earhart Expressway and Jefferson Highway experiences frequent flooding during rain events. Flooding also occurs to the surrounding industrial complex of the Elmwood area. Clearview Parkway was constructed in the 1970's at ground level in a low lying area that previously functioned as a drainage collection sump, which at that time, was largely undeveloped. Since its construction, increased development in the basin has exacerbated the frequency, depth, range, and duration of the flood events to unacceptable levels. Clearview Parkway is a heavily trafficked roadway with more than 66,000 vehicles utilizing the route every day. In addition, the Clearview Parkway is a major north-south corridor available as a hurricane evacuation route as it represents the main access to this area for Westbank residents using the Huey P. Long Bridge to Interstate 10 and Airline Highway (Highway 61). The Clearview Parkway/Earhart Expressway interchange serves as the

transportation hub of the Elmwood Industrial Park Area, Elmwood Shopping Center, and the Jefferson Parish Government Complex at the Yenni Building.

The proposed project drainage area (Figure 3) is bounded by the Mississippi River levee on the south, Metairie Ridge and the Cross Canal on the north, Lower Kraak Ditch on the east, and Soniat Canal and Hickory Avenue on the west. The drainage area contains approximately 2,500 acres of highly developed residential, commercial, and industrial land. The New Orleans Public Belt Railroad and the Canadian National Illinois Central Railroad have multiple rail tracks atop the Metairie Ridge. The natural elevation of Metairie Ridge, which was formed by an old path of the Mississippi River, is 6 feet to 8 feet above the adjacent low land on the south side, where both the Earhart Expressway and the Cross Canal lie. The natural ground elevation near the Mississippi River levee is approximately 10 feet above mean sea level (msl) and its surface elevation slopes to the low land at the base of the railroads. The Clearview Parkway/Earhart Expressway interchange area lies with a sump, and is 2 feet to 3 feet lower than the adjacent areas lying along the boundaries of the drainage area. This topography creates a bowl-like effect with the Interchange being at the bottom of the bowl. Increased development since the construction of the roadways, which has increased paved and water impervious areas, has exacerbated flooding problems.

Figure 3: Proposed Project Drainage Area

Flooding, which may close the entire length of Clearview Parkway for 1 to 3 hours, and cause partial closures for up to 8 hours, and substantial damage to or complete loss of vehicles, occurs due the following deficiencies: 1) the inability of the Cross Canal to efficiently discharge flows from St. Peters ditch efficiently into the Soniat Canal; 2) the existing pump station is undersized (34 cubic feet per second [cfs]); 3) the existing drainage structure between the railroad tracks and West Metairie Canal is also undersized.

3.0 ALTERNATIVES

3.1 Alternative 1 - No Action

Under this alternative, Jefferson Parish would not construct the new pump station, the earthen berm, or improve the drainage in St. Peter's Ditch. Consequently, the homes in the Elmwood area of Metairie would continue to flood during severe storms, tropical storms, and hurricanes.

3.2 Alternative 2 – Elmwood/Clearview Drainage Project (Proposed Action)

The proposed project would increase the size of the existing drainage structures in St. Peter's ditch between the West Metairie Canal and the Cross Canal, increase the capacity of the pumping station serving the area, and construct an earthen berm to reduce flood and storm water from entering the Earhart Expressway and the area south of the Cross Canal.

In some areas, the St. Peter's Ditch and the existing drainage structures are below ground. Therefore, ground disturbing activities would be required to access the existing ditch and drainage structures. The proposed actions would develop another major drainage outfall for the Clearview/Elmwood area instead of rapidly conveying more water into the Cross Canal/Soniat Canal corridor. The project is designed to provide 10-year flood protection.

The proposed project would be designed to be compatible with the Southeast Louisiana Urban Flood Control (SELA) project that is currently underway and primarily addresses residential flooding. Improvements from the proposed project could be considered for incorporation into the SELA project because more apartments and residential properties have been constructed recently and Jefferson Parish has long considered improving drainage in the 7th Ward residential area of Old Jefferson. The SELA project requires additional funding and has not been fully implemented.

Due to the size, cost, and complexity of the proposed project, Jefferson Parish developed a plan that divided the project into four phases. Some of the phases have been constructed and are operational. These phases were funded using non-Federal government funding. Because the phases that have been constructed function independently and are not reliant upon the Federally-funded project to be operational, they are not connected actions under NEPA. The phases of plan for which FEMA funding would be used include:

- Phase III C, and D – St. Peter's Ditch, which approximately 4,500 linear feet in length, would be improved from the West Metairie Canal (Canal # 5) (see Photos 1, 2 and 3), at West Metairie Avenue, (29.983089, -90.184688) to the Earhart Expressway and

Clearview Parkway interchange and the Cross Canal (29.970851, -90.181272). Schematic construction plans of the proposed project phases involving St. Peter's Ditch are depicted in Figures 4 and 5.

Comment [KHB1]: Insert the drawings into the text like you did previously.

Photo 1 - View of the West Metairie Canal (Canal No. 5). All water flowing from St. Peter's Ditch will flow north and drain into this canal.

Photo 2 - View of the West Metairie Canal (Canal No. 5) culvert at the north end of the proposed project.

Photo 3 - The West Metairie Canal (Canal No. 5) culvert at the north end of the proposed project.

Under Phase III C, (Figures 4 and 5), beginning at the West Metairie Canal (Canal #5), approximately 1,700 linear feet of 6.5-foot x 10-foot box culvert would be replaced with double 6-foot x 6-foot culverts, which would be placed below ground. This area of St. Peter's Ditch consists of right-of-way owned by Jefferson Parish, as shown in Photo 4. The next approximately 832 linear feet of existing open ditch would be replaced by 6 foot x 12 foot concrete U-flume. The concrete flume would be approximately 3 feet in height and would form a U-shape, including concrete sides on the banks and a concrete bottom. The next approximately 2,013 linear feet of open ditch would be replaced by two 6-foot x 6-foot box culverts or 6-foot x 12-foot U-flume. During construction, two active rail tracks, one inactive rail track, a section of Airline Highway, and the parking lot at Harry's Dive Shop, shown in Photo 5, would be removed and replaced. In addition, a wooden bridge, shown in Photo 6, would be removed. An existing concrete culvert located near the wood bridge, shown in Photo 7, would be removed and replaced. The proposed culvert would be sloped from an invert of -10.0 feet NAVD88 at Cross Canal to an invert of -14.0 feet NAVD88 at Canal #5 and the West Metairie Avenue intersection to allow water to flow northward into Canal #5.

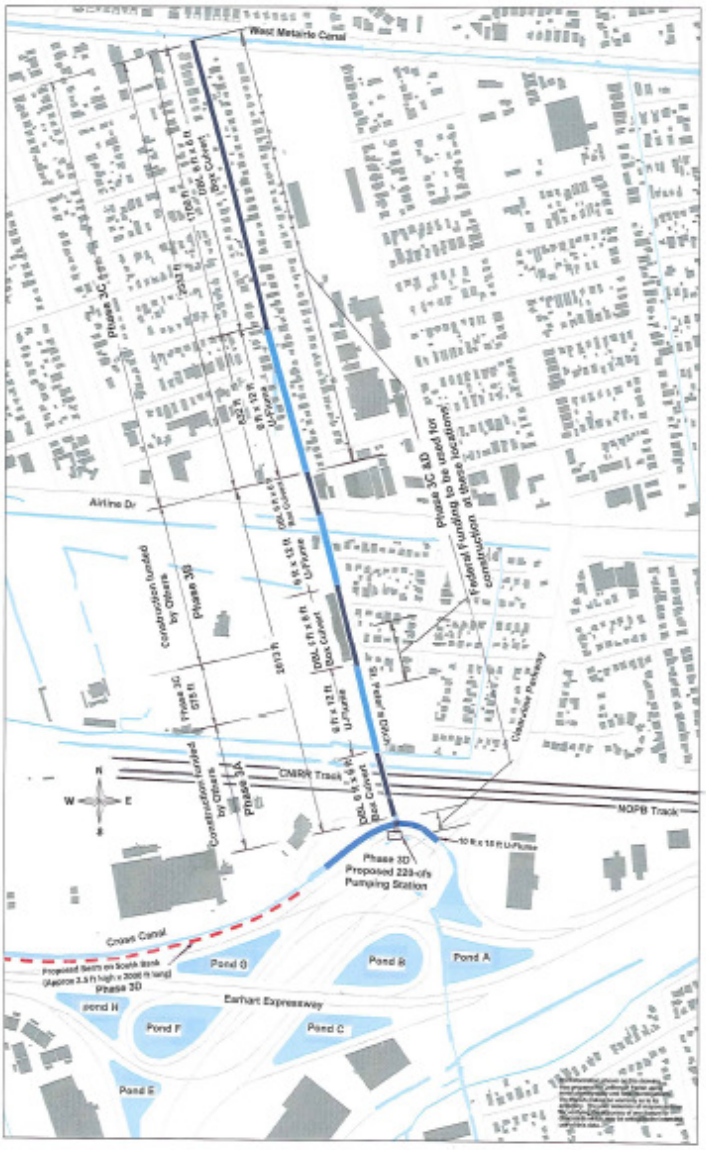
Photo 4 - St. Peter's Ditch underlying this area will be accessed and the culverts replaced.

Photo 5 - View of parking lot that will be removed and replaced to access St. Peter's Ditch culverts (beneath the parking lot) which will be replaced.

Photo 6 - View of wooden bridge to be removed for proposed project.

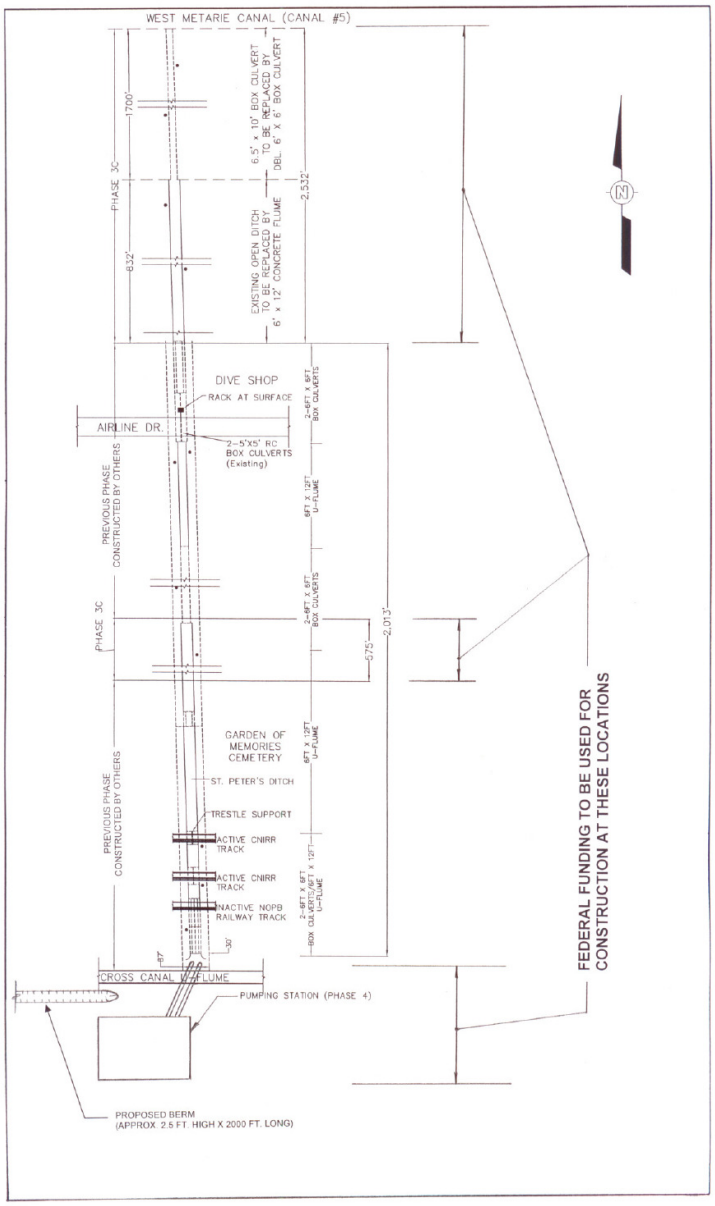
Photo 7- View of existing undersized culvert along Airline Highway at St. Peter's Ditch.

Figure 4: Schematic construction plan of the proposed project phases involving St. Peter's Ditch



St. Peter's Ditch Expansion Project

Figure 5: Detailed construction plan of the proposed project involving St. Peter's Ditch (Phase III C)



The newly constructed U-flume would be an extension of one that was previously constructed, as shown in Photo 8 and in bold red on Figures 6 and 7. The proposed U-flume would run from north of Airline Highway to the West Metairie Canal in areas where St. Peter's Ditch is at the surface. In areas where St. Peter's Ditch is below the surface, box culverts will be installed.

Photo 8 - View of U-flume already completed along the Cross Canal.

Figure 6: Construction Plan of the Cross Canal area showing proposed new pump station on the west side of St. Peter's Ditch (Phase III D and IV)

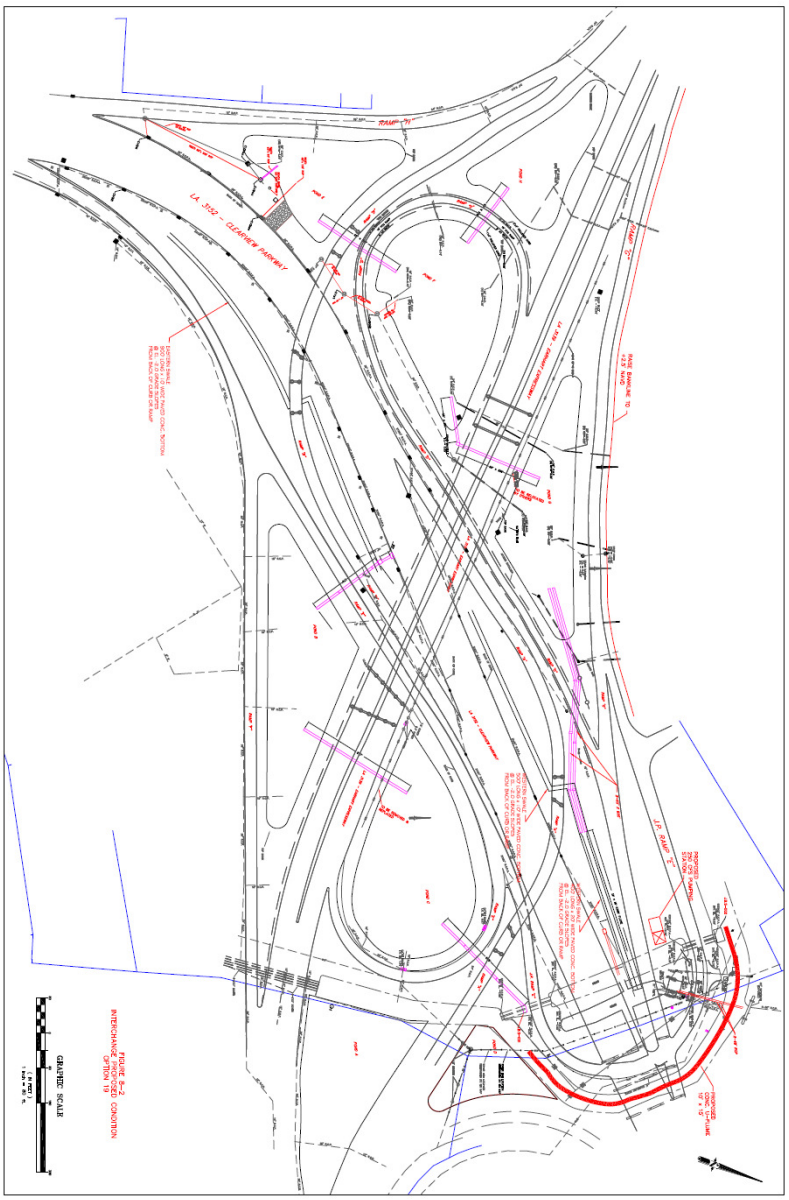
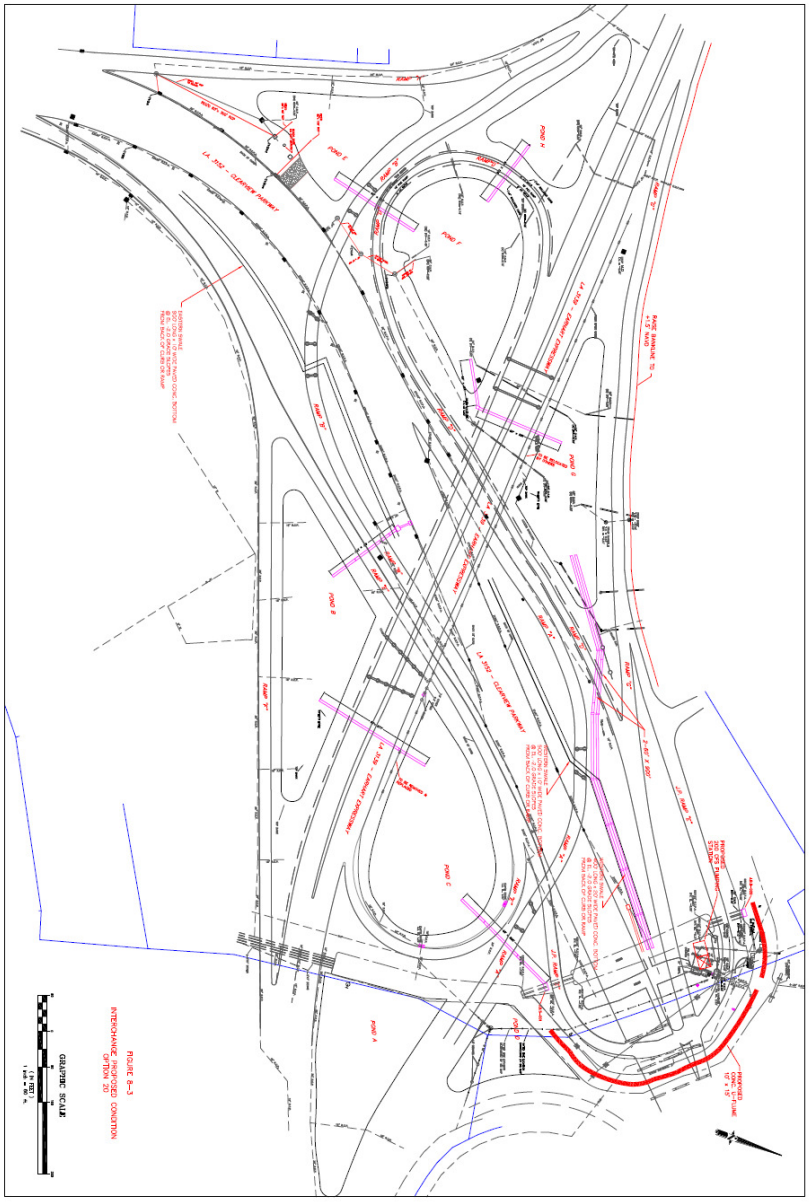


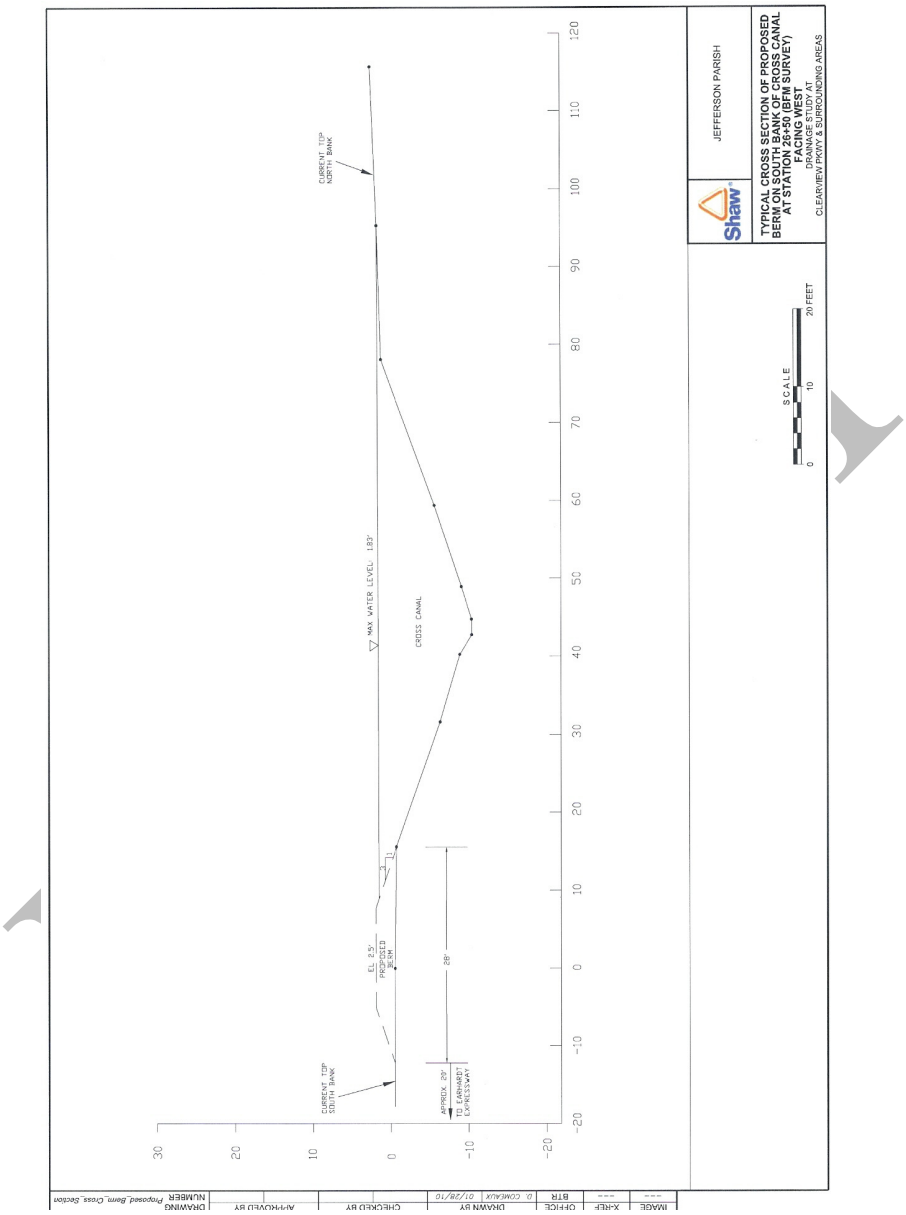
Figure 7: Construction Plan of the Cross Canal area showing proposed new pump station on the eastside of St. Peter's Ditch (Phase III D and IV)



Under Phase III D, Jefferson Parish proposes to construct an earthen berm on the south bank of the Cross Canal (Figure 8). The berm would be approximately 2,000 feet long and approximately 2.5 feet high (Photo 9). The berm would be constructed to the BFE, plus one foot for freeboard. The actual height of the earthen berm would vary, depending on the actual ground elevation at each particular location. The eastern end of the proposed berm begins at 29.969817, -90.182935. The western end of berm ends at the Camp Plauche Ditch (29.969018, -90.191571). The earthen berm would be sloped 3:1 and would be approximately 28 feet wide.

Photo 9 - View of the Cross Canal, looking west. The proposed berm will be constructed along the south (left) side of the canal.

Figure 8: Construction Plan of the Proposed Berm on the south side of the Cross Canal



- Phase IV – Jefferson Parish proposes to construct a new 220 cfs pump station on a currently vacant lot near the existing 34 cfs pump station. The proposed site is south of the Cross Canal at the intersection of the St. Peter's Ditch (Photo 10). The new pump station must be located adjacent to the St. Peter's Ditch in order to function as intended. The new pump station would be similar in appearance to the existing pump station and would likely have two 48-inch pipes, and a ten-foot wide footprint.

Photo 10 - View of existing 34 cfs pump station.

Jefferson Parish is considering two options for the placement of the pump station.

- Option 1 – The placement of the new pump station on the west side of St. Peter's Ditch, near the existing pump station (Figure 6)

- Option 2 – The placement of the new pump station on the east side of St. Peter's Ditch (Figure 7)

The environmental impacts of the placement of new pump station in either of these locations will be similar.

Comment [KHB2]: Describe the two different locaitons

3.3 Alternatives Eliminated From Further Consideration

The following alternatives were considered by Jefferson Parish, but were eliminated from further consultation.

One alternative considered was to elevate Clearview Parkway approximately 3.0 feet at its Earhart Expressway crossing, to maintain the minimum 16.0 foot required clearance under the elevated roadway. This option was dismissed because it does not meet the purpose and need of minimizing and managing the flooding problem, and it does not address future drainage considerations. In addition, there would be a need to close the roadway in both directions,

causing major inconvenience due to traffic disruptions for at least two years and finally, this option would be expensive.

Another alternative considered was major canal modifications to divert the drainage area storm water southward into the Mississippi River via a new pump station. However, constructing major canal modifications westward along Cross Canal to Soniat Canal to improve the flow into Soniat Canal is unacceptable to both Jefferson Parish and the City of Harahan because of a lack of capacity in Soniat Canal for additional floodwater. Soniat Canal experiences repetitive flooding from the river to the lake. Unless a 1,200 cfs pump station is constructed upstream of Cross Canal in the Soniat Canal, no additional flow can be directed into the Soniat Canal without causing increased flooding. In addition, the alternative would be extremely expensive to construct, cause traffic disruption, and require utility relocations.

4.0 AFFECTED ENVIRONMENT AND IMPACTS

4.1 Geology and Soils

According to the *Soil Survey of Jefferson Parish, Louisiana* (U.S. Department of Agriculture [USDA] 1983), the Parish consists of three physiographic areas: natural levees, marshes, and swamps. The entire parish lies within the Mississippi River Delta. The natural levees are in bands about three miles wide on both sides of the Mississippi River. Elevation in the Parish ranges from approximately 12 feet above msl near the Mississippi River to approximately 5 feet above msl in the marshes. The project area is relatively flat, varying from - 4 foot elevation (National Geodetic Vertical Datum, NGVD 29) to + 5 feet, according to GoogelEarth.

The Mississippi Alluvial Plain is in the northern part of the Mississippi Embayment, a geologic structural trough in which the underlying crust of the Earth forms a deep valley. Large rivers, such as the Mississippi, Arkansas, and Ohio Rivers, have flowed through this region, carved the surface, and deposited clay, silt, sand, and gravel, collectively called alluvium. During the past two million years, up to 300 feet of alluvium has filled this valley. The alluvium can be grouped into three major units: the Pleistocene Prairie Complex, Pleistocene valley trains, and the Holocene alluvium. Based on a Geologic Map of Louisiana, Jefferson Parish overlies Holocene Alluvium. By about 9,000 years ago, the rate of glacial outwash in the Lower Mississippi River Valley declined, and valley train deposition ceased. The braided stream depositional process of the Pleistocene epoch was replaced by the lower energy meander stream depositional process of the Holocene epoch near major rivers, such as the Mississippi and Arkansas Rivers.

The soil types present at the proposed project location are Allemands muck, drained (Ae) Cancienne silt loam (Cm), Cancienne silty clay loam (Co), and Schriever clay (Sk) .

Allemands muck, drained, soils are level and poorly drained with a slope of less than one percent in the marshes landform with decomposed organic material overlying clayey backswamp deposits parent material. Water and air move through this soil at moderately low rate. Water runs off the surface slowly and stands in low places for long periods after heavy rains. A seasonal high water table ranges from the surface to a depth of 6 to 48 inches. This soil is subject to rare flooding. Allemands muck, drained, soil is rated as very limited for shallow

excavations due to depth to the saturated zone, too clayey, and organic matter content. Allemands muck, drained is rated as very limited for construction of embankments, dikes, and levee due to depth to the saturated zone, seepage, and organic matter content. The Allemands muck, drained soils are classified as hydric soils, but the soils are not classified as Prime Farmland.

Cancienne silt loam soils are level and poorly drained with a slope of less than one percent in the marshes landform with decomposed organic material overlying clayey backswamp deposits parent material. Water and air move through this soil at moderately low rate. Water runs off the surface slowly and stands in low places for long periods after heavy rains. A seasonal high water table ranges from the surface to a depth of 6 to 48 inches. This soil is subject to rare flooding. Cancienne silt loam soil is rated as somewhat limited for shallow excavations due to depth to the saturated zone and cutback caving. Cancienne silt loam is rated as somewhat limited for construction of embankments, dikes, and levee due to depth to the saturated zone and piping. The Cancienne soils are not classified as hydric soils, but the soils are classified as Prime Farmland.

Cancienne silty clay loam soils are level and somewhat poorly drained with a slope of less than one percent in the natural levee landform with decomposed organic material overlying clayey backswamp deposits parent material. Water and air move through this soil at moderately high rate. Water runs off the surface slowly and stands in low places for long periods after heavy rains. A seasonal high water table ranges from the surface to a depth of 18 to 48 inches. This soil is subject to rare flooding. Cancienne silty clay loam soil is rated as somewhat limited for shallow excavations due to depth to the saturated zone and cutback caving. Cancienne silty clay loam is rated as somewhat limited for construction of embankments, dikes, and levee due to depth to the saturated zone. The Cancienne soils are not classified as hydric soils, but the soils are classified as Prime Farmland.

Shriever clay soils are level and poorly drained with a slope of less than one percent in the backswamps landform. Water and air move through this soil at low to moderately low rate and the soil has high shrink-swell potential. Water runs off the surface slowly and stands in low places for long periods after heavy rains. A seasonal high water table ranges from the surface to a depth of 0 to 24 inches. This soil is subject to rare flooding. Shriever clay soil is rated as very limited for shallow excavations due to depth to the saturated zone, too clayey in texture and cutback caving. Shriever clay is rated as very limited for construction of embankments, dikes, and levee due to depth to the saturated zone and it is hard to pack. The Shriever soils are classified as hydric soils, and this soil type is classified as Prime Farmland.

The Farmland Protection Policy Act (FPPA) was enacted to minimize the unnecessary conversion of prime farmland soils to non-agricultural uses as a result of federal actions. The Natural Resources Conservation Service (NRCS) is responsible for protecting significant agricultural lands from irreversible conversions that result in a loss of an essential food or environmental resource. Cancienne and Schriever clay soils are classified as Prime Farmland; however, the project area is densely developed, with a mix of residential structures, light and heavy commercial buildings, government complexes, and transportation uses, including railroads

and heavily traveled highways. The Garden of Memories Cemetery lies west of St. Peter's Ditch between Airline Highway and the railroad tracks.

Alternative 1 - No Action: The No Action Alternative would have no impacts on the soils or geology of the area.

Alternative 2 – Elmwood/Clearview Drainage Project (Proposed Action): Under Alternative 2, the construction of the earthen berm would have some effect on geology and soils, mainly as part of the site preparation work. Minor excavation would be required to construct the berm, improve the drainage of the St. Peter's Ditch, and construct the new pump station. Soils would be exposed during excavation. Additionally, the project would result in the compaction of the underlying soil. The soil around the construction site could be more susceptible to erosion if adequate drainage is not used.

The project area is within the city limits of Metairie, which is an urban area. According to the NRCS, activities not subject to FPPA include "Projects on land already in urban development or used for water storage". Therefore, this project is exempt from FPPA regulations.

The applicant consulted with the Louisiana Department of Agriculture and Forestry (LDAF). In a response dated February 18, 2009, the LDAF had no comments regarding the proposed project. Copies of the agency correspondence are presented in Appendix A.

After consideration of potential impacts to soil and geology, it was determined that implementation of the proposed project would result in minor and localized, short-term and long-term impacts. Soil erosion during construction would be minimized by the implementation of Best Management Practices (BMPs), such as using silt fencing, covering stockpiled soils, mulching cleared areas, and regenerating with native species. The applicant is expected to use BMPs to minimize impacts to soil. In general, effects to geology would be minimal and temporary in nature.

4.2 Water Resources

4.2.1 Surface Water

According a Drainage Study for Clearview Parkway, St. Peter's Ditch, and Surrounding Area, performed by Urban Planning and Innovations, Inc. in association with Shaw Coastal, Inc. (2006), storm and surface water runoff from the project drainage area, drains primarily into a series of east-west canals located adjacent to the major thoroughfares. The storm water drains into the Soniat Canal, flows into both the Duncan and Elmwood pumping stations, which then discharge into Lake Pontchartrain.

Alternative 1- No Action: The No Action Alternative would not change site drainage or have an effect on the surface water quality of the area.

Alternative 2 – Elmwood/Clearview Drainage Project (Proposed Action): During construction there is the potential to impact surface waters through minor erosion and sedimentation.

Excavation and trenching would be required to construct the new pump station, construct the berm, and improve the drainage in St. Peter's Ditch. In order to minimize impacts to waters of the U.S., the contractor is required to implement BMPs that meet the Louisiana Department of Environmental Quality's (LDEQ) permitting specifications for storm water discharge regulated under Section 402 of the Clean Water Act (CWA). This includes specific construction measures to reduce or eliminate run-off impacts. However, any adverse effects to water quality associated with the construction of the projects would be short term and minimized by the measures described above.

4.2.2 Waters of the U.S. including Wetlands

Executive Order 11990, (Protection of Wetlands) requires federal agencies to to take actions to minimize the destruction, loss, or degradation of wetlands, except when there are no practicable alternatives. This Executive Order also mandates that any wetlands impacted by a Federally-funded project be mitigated if avoidance or minimization of impacts is not possible.

The U.S. Army Corps of Engineers (USACE) regulates the discharge of dredged or fill material into waters of the U.S., including wetlands, pursuant to Section 404 of the CWA. USACE also regulates the building of any structures in waters of the U.S. pursuant to Section 10 of the Rivers and Harbor Act (RHA). The project area contains two canals, St. Peter's Ditch, which runs south to north, and Cross Canal, which runs east to west, both of which drain in Soniat Canal, and ultimately into Lake Pontchartrain. In addition, three east-west canals intersect the project area. One cannal is along West Metairie Avenue, (Canal #5), one is along Airline Drive, and one is immediately north of the railroad tracks.

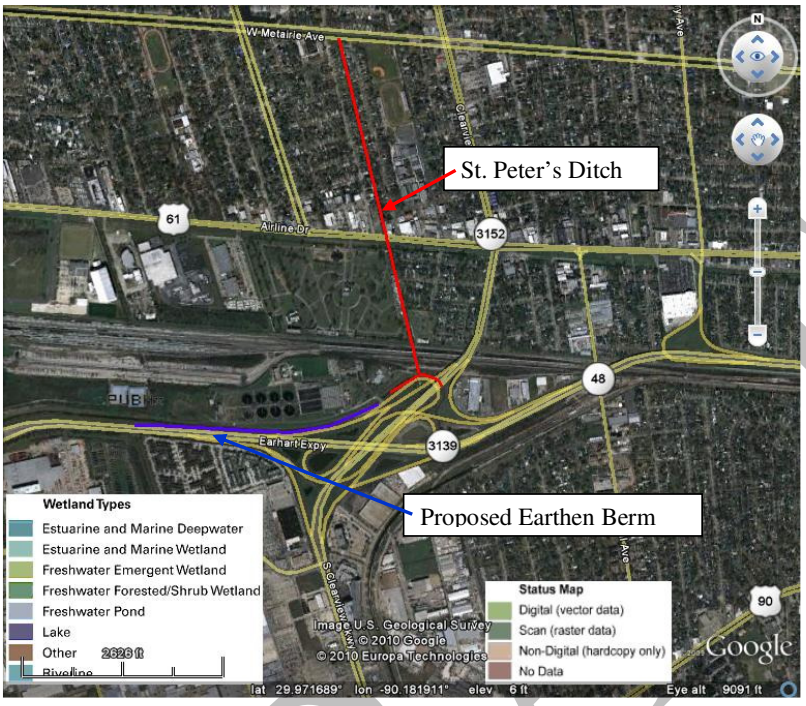
Jurisdictional wetlands are defined as those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. There are jurisdictional wetlands associated within and north of the project area. Jurisdictional wetland determinations are regulated by the USACE pursuant to CWA.

There are no wild and scenic rivers, as designated under the Wild and Scenic Rivers Act, in or near the project area.

Alternative 1- No Action: The No Action Alternative would have no impact on wetlands or other waters of the U.S. and would not require permits regulated under Sections 401 or 404 of the CWA, or Section 10 under the RHA.

Alternative 2 – Elmwood/Clearview Drainage Project (Proposed Action): A review of soil survey maps for Jefferson Parish showed the presence of hydric soils (Allemands muck, drained and Schriever clay) in the project area. There are no mapped wetlands within the project area. During a site visit, it was determined that there are no wetlands in the project area. A wetlands map of the project area is shown in Figure 9.

Figure 9: Wetland Map



The applicant conducted a wetland analysis for the project area. According to this analysis, "the proposed project would temporarily impact a total of approximately 2.424 acres (4,800 feet by 22 feet) of Other Waters of the U.S. (St. Peter's Ditch). Water is clean and water quality is relatively good. No oil film on the surface or pollutants were observed. It is our conclusion that there are no jurisdictional wetlands that would be impacted by the proposed project." In addition, the analysis states that "the Louisiana Department of Transportation and Development (the Department) would mitigate the wetland being impacted by construction activities for this project by minimizing impacts as listed in the Department's Standard Specifications and mitigate for lost wetland habitats by reseeding with the appropriate plants and seedlings. In addition, the Department will coordinate appropriate mitigation planned with the Corps of Engineers. It has been determined that there is no practicable alternative to the proposed construction involving wetlands and the proposed action included all practicable measures to minimize harm to wetlands which may result from this project." A copy of the wetland analysis is presented in Appendix A.

Comment [KHB3]: Why would mitigation be done by the LADOTD? What role do they have in the project? Are FHWA funds involved?

Jefferson Parish contacted the USACE regarding their proposal to "install concrete culverts, flumes, and other improvements to replace wooden culverts in St. Peter's Ditch from West Metairie Canal to Earhart Expressway". In letters dated February 12, 2009 and July 23, 2009, the USACE determined that, the proposed project would not require a Department of the Army (DA) permit under Section 404 of the CWA. Any changes or modifications to the proposed project would require a revised determination". Off-site locations of activities such as borrow,

disposals, haul- and detour-roads, and work mobilization site developments may be subject to DA regulatory requirements and may impact a DA project. Copies of the agency correspondence are presented in Appendix A.

4.2.3 Groundwater

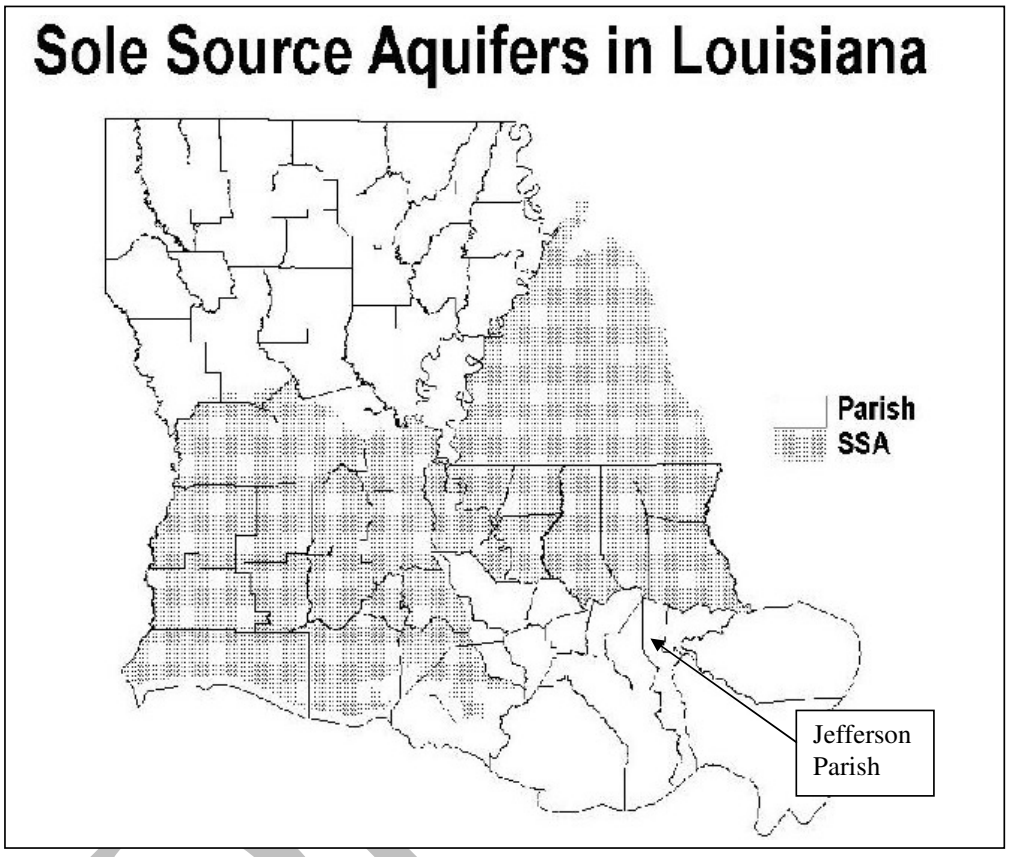
Comment [KHB4]: Is groundwater a major source of water for the project area?

The Safe Drinking Water Act (SDWA) was originally passed by Congress in 1974 to protect public health by regulating the nation's public drinking water supply and is administered by the Environmental Protection Agency (EPA). The law was amended in 1986 and 1996 and requires many actions to protect drinking water and its sources: rivers, lakes, reservoirs, springs, and ground water wells. Sole Source Aquifer designation is one tool to protect drinking water supplies in areas with few or no alternative sources to the ground water resource, and where if contamination occurred, using an alternative source would be extremely expensive. The designation protects an area's ground water resource by requiring EPA to review all proposed projects within the designated area that would receive federal financial assistance. All proposed projects receiving federal funds are subject to review to ensure they do not endanger the ground water source. The EPA defines a sole or principal source aquifer as one which supplies at least fifty percent (50 percent) of the drinking water consumed in the area overlying the aquifer. These areas can have no alternative drinking water source(s) which could physically, legally, and economically supply all those who depend upon the aquifer for drinking water. Sole Source Aquifers are regulated under Section 1424(e) of the SDWA.

There are two sole source aquifers in Louisiana, the Chicot Aquifer System in southwestern Louisiana, and the Southern Hills Aquifer System in the northshore area of southeastern Louisiana and southwestern Mississippi. Jefferson Parish does not overlie either of these sole source aquifer systems (Figure 10). According to *305b Appendix F, Major Aquifer Systems of Louisiana*, from the LDEQ, the proposed project location overlies the Southeast Louisiana Aquifer System. The aquifers of southeastern Louisiana consist of Pleistocene alluvial and terrace deposits and Pliocene and Miocene sediments that outcrop in southwestern Mississippi. The system is divided into aquifers (acting as one hydraulic system) of the New Orleans area, the Baton Rouge area, and the "Florida Parishes". Jefferson Parish overlies the Pleistocene aquifer. The Pleistocene aquifers are moderately to well sorted with fine sand near the top grading to coarse sand and gravel in the lower parts. Layers of silt and clay act as confining units. Recharge to the system occurs by direct infiltration of rainfall in outcrop areas in southwestern Mississippi and northern "Florida parishes", by the movement of water between aquifers in the system and between aquifers and the Mississippi River. A zone of saline water occurs within the Pliocene and Miocene sediments beneath the Mississippi River alluvial valley. Water levels fluctuate seasonally with changes in river stage and precipitation. Natural flow is downgradient toward rivers and streams. According the LDEQ, the groundwater is hard to soft to moderately hard sodium bicarbonate. The range of thickness of the freshwater interval is 50 – 600 feet, typical well yields are 100 – 2,100 gallons per minute, and the hydraulic conductivity is 10 – 200 feet per day.

Comment [KHB5]: Florida does not have Parishes, so this is confusing

Figure 10: Sole Source Aquifer Map



Alternative 1- No Action: The No Action Alternative would have no effect on the groundwater under the site.

Alternative 2 – Elmwood/Clearview Drainage Project (Proposed Action): There are no sole source aquifers in the proposed project area; therefore, the proposed project would have no affect on any sole source aquifer. In addition, the applicant consulted with the EPA, Region 6 regarding sole source aquifers. In a response dated February 6, 2009, the EPA indicated that "the projects do not lie within the boundaries of a designated sole source aquifer and thus is not eligible for review under the SSA program" (see Appendix A).

4.2.4 Floodplains

Executive Order 11988 (Floodplain Management) requires federal agencies to avoid or minimize development in the floodplain except when there are no practicable alternatives. Jefferson Parish

enrolled in the National Flood Insurance Program (NFIP) on October 1, 1971. Preliminary Digital Flood Insurance Rate Maps (PDFIRMs) were produced for Jefferson Parish, dated October 30, 2008; however, the Parish has not yet adopted these PDIRMs. In 2006, FEMA issued a policy memo indicating the Advisory Base Flood Elevations (ABFEs) were to be used for project applications for all mitigation grants programs. Local communities are not required to utilize the PDFIRM elevation and data until a Letter of Final Determination (LFD) is issued by FEMA.

Comment [KHB6]: Has the Parish adopted the ABFEs?

According to the Hurricane Katrina & Rita Surge Inundation and ABFE Map panel numbers LA-DD28 and LA-DD27, dated June 5, 2006, the proposed site location is located in zones ABFE EL -3.5 feet or 3 feet above HEAG, ABFE 3 feet above HEAG, and ABFE 2.5 feet or 3 feet above HEAG (Figures 11A and 11B). According to PDFIRM Panel Numbers 22051C 0180F and 22051C 0185F, the proposed project site is located in zones AE (EL 3), AE (EL -2.5) and shaded X (the 500-year floodplain). In an email dated December 3, 2009, Charles Tobelman, Deputy Mitigation Section Chief, Programs, of the FEMA Hazard Mitigation Program, indicated that Program recommends using the ABFEs in assessing potential impacts associated with the Proposed Action and the alternative.

Figure 11A: Proposed Project ABFE Map LA-DD28

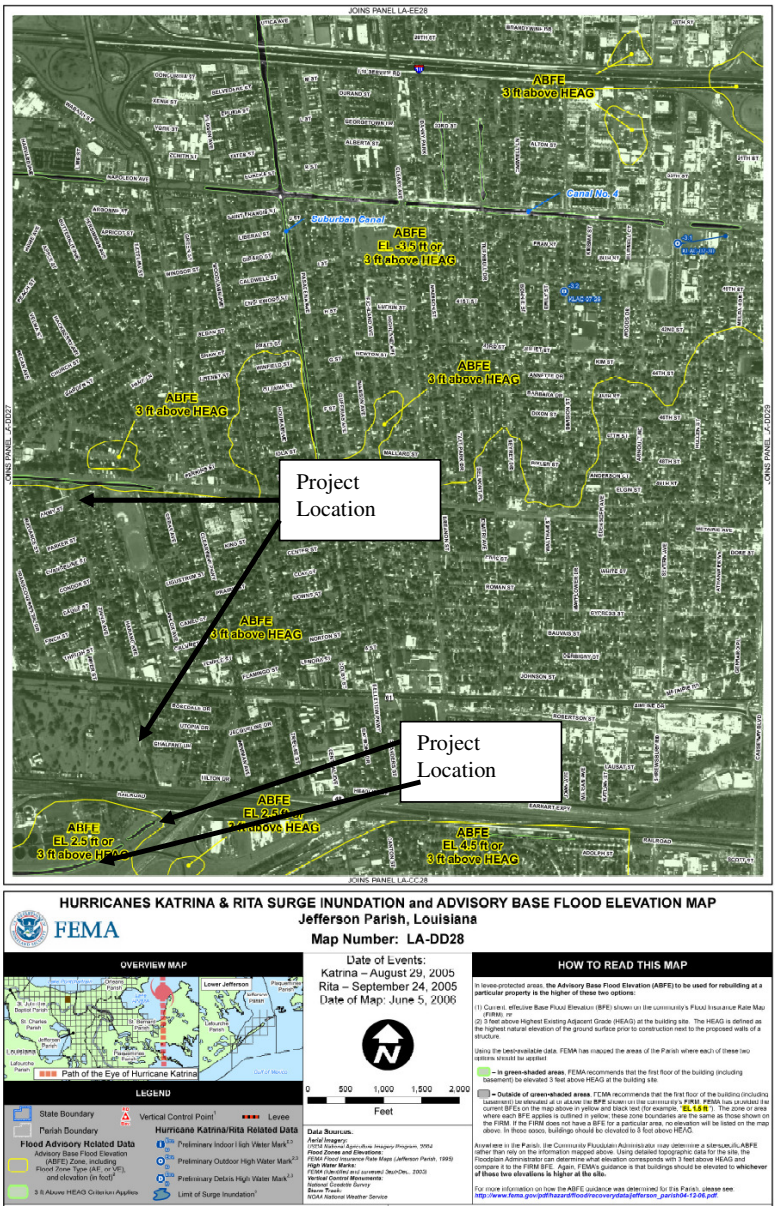
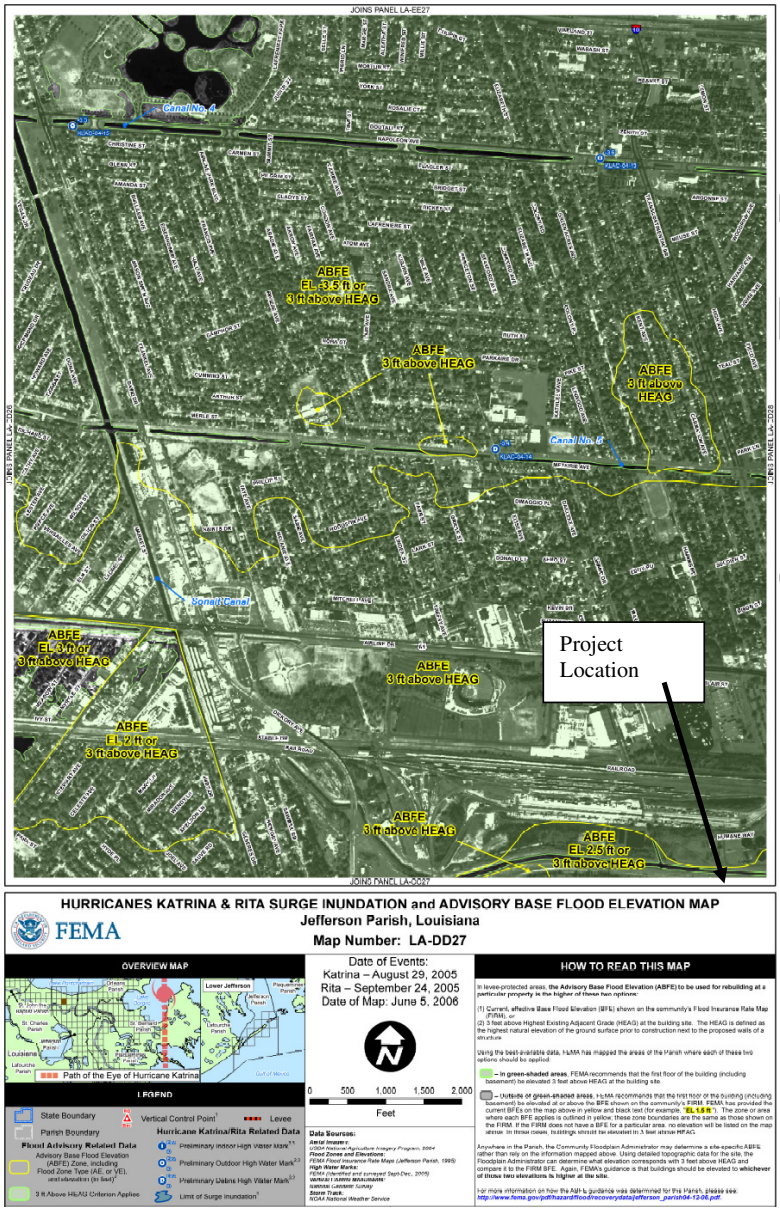


Figure 11B: Proposed Project ABFE Map LA-DD27



Alternative 1- No Action: The No Action Alternative would have no effect on floodplains.

Alternative 2 – Elmwood/Clearview Drainage Project (Proposed Action): The project would be located in ABFE EL -3.5 feet or 3 feet above HEAG, ABFE 3 feet above HEAG, and ABFE 2.5 feet or 3 feet above HEAG. To comply with Executive Order 11988, Floodplain Management, FEMA is required to follow the procedure outlined in 44 CFR Part 9 to assure that alternatives to the proposed action have been considered. This process, also known as the "Eight Step Planning Process," has been applied to this mitigation project and is described in Appendix B. This action must be coordinated with the local floodplain manager as well as comply with local floodplain ordinances. For the purposes of this study, there are no practical alternatives to the proposed action.

The applicant consulted with Susan Veillon, CFM, Floodplain Management Program Coordinator with the Louisiana Department of Transportation and Development. In a response dated March 11, 2009, Ms. Veillon stated that "during and after the project, consideration must be given for the occurrence of a base flood inundation. At this time, consideration should also be given to the responsibility for clearing debris and keeping the area cleared so as not to interfere with its function." In addition, "in order to assure compliance with Jefferson Parish requirements for the National Flood Insurance Program (NFIP), and ensure that appropriate permits are obtained, please contact the floodplain administrator for Jefferson Parish." Copies of the agency correspondence are presented in Appendix A.

Comment [KHB7]: Why LADOTD??? Clerly the have some role that needs to be describe early in the document.

Urban Planning and Innovations, Inc. in association with Shaw Coastal, Inc., performed a drainage study for the project area (August 2006), which included rainfall-runoff simulation and modeling. For the option selected by Jefferson Parish, according to the study, simulated water levels at the lowest roadway elevation is -1.29 feet NGVD under a 10-year storm, which is below the average low roadway elevation of -0.8 feet, and 0.01 feet under a 100-year storm, which is above the average low roadway elevation of -0.8 feet NGVD. The maximum flow discharged into Canal # 5 under a 10-year storm, would be increased from 413 cfs to 1,048 cfs, an increase of 635 csf, without any flooding along St. Peter's Ditch. The maximum flow discharged into Canal # 5 under a 100-year storm would be increased from 517 cfs to 1,224 cfs, an increase of 707 csf, The proposed project provides major drainage diversion of almost 1,000 cfs from the Clearview/ Elmwood area to Canal # 5, which is the interface of the SELA hydraulic model. The consulting engineers for the Jefferson Parish SELA program have indicated that both the Suburban Canal and the Suburban Pumping Station have adequate capacity to handle the increased flow.

According to Song-kai Yan, Ph.D., P.E., P.H., Senior Staff Consultant; Technical Lead of Shaw Coastal, Inc., the proposed drainage improvements for the St. Peter's Ditch Drainage Improvements Public Works Project, "have been designed based on extensive hydraulic modeling to eliminate flooding at the interchange at Clearview Parkway/ Earhart Expressway for rainfall up to and including a 10-year storm event, according to Jefferson Parish requirements" (Appendix B). Implementation of this alternative would reduce the potential for flooding from a 10year storm and would, therefore, afford additional flood protection for structures in the project area, and would reduce interruption to businesses and traffic because of road closures. Lessening

the potential for roadway flooding and road closures also means that hurricane evacuation can occur unencumbered.

4.3 Coastal Resources

Louisiana Department of Natural Resources (LDNR) regulates development in the designated coastal zone under the Coastal Zone Management Act (CZMA) of 1972. A central requirement of the CZMA is that each state develops a management program for its coastal zone. In 1978, the Louisiana Legislature passed the State and Local Coastal Resources Management Act. This act established a coastal zone boundary and a system of Coastal Use Permits (CUPs) to regulate uses and activities in Louisiana's coastal zone. These CUPs are required for those projects that have a direct impact on coastal waters.

Federally-funded activities that affect the coastal zone are also subject to federal consistency provisions of the CZMA. Before the federal agency can grant financial assistance, the applicant must attach a consistency certification issued by the state coastal agency.

The U. S. Fish and Wildlife Service (USFWS) administers the Coastal Barrier Resource Act (CBRA). The Act designated various undeveloped coastal barrier islands, depicted by specific maps, for inclusion in the Coastal Barrier Resources System (CBRS). Areas so designated were made ineligible for direct or indirect Federal financial assistance that might support development, including flood insurance, except for emergency life-saving activities. There are designated CBRS units in Louisiana and in Jefferson Parish, but not near the proposed project area.

Alternative 1- No Action: The No Action Alternative would have no effect on the coastal zone or any designated Coastal Barrier Resource System unit.

Alternative 2 – Elmwood/Clearview Drainage Project (Proposed Action): The proposed site is located in the designated Louisiana Coastal Management Zone. Projects within the coastal zone would require a CUP or other authorization from LDNR. The applicant would be required to contact LDNR for consistency determinations prior to initiating work.

The applicant consulted with Mr. John J. Uhl, Administrator of the Coastal Zone Management Program of Jefferson Parish regarding the proposed project. In a letter dated May 22, 2009, Mr. Uhl indicated that "after consulting the Jefferson Parish Coastal Zone Management Plan and an evaluation of the proposed activity's conformance with the Coastal Use Guidelines, it has been determined that the proposed project is located in a "fastland" and will have no direct and significant impact to coastal waters. Therefore, the activity is exempt and a Coastal Use Permit will not be required." This determination is valid for two years from the date of the letter (Appendix A).

The LDNR, regulates the Louisiana Coastal Zone Management Program. Since the applicant did not consult with this agency, FEMA initiated consultation with the LDNR on February 5, 2010 regarding consistency with the Louisiana Coastal Resources Program (LCRP). In a response dated February 24, 2010, the LDNR indicated that the project, "as proposed in the application, is

consistent with the LCRP. However, this authorization for assistance does not eliminate the need to obtain other Federal, state, and local approvals which may be required by law. This project may require a Coastal Use Permit from the LDNR. Determination of Coastal Use Permit requirements can be obtained through the submission of a completed Coastal Use Permit Application to the LDNR." Copies of the agency correspondence are presented in Appendix A.

The project site is not part of a designated CBRS unit and thus CBRA does not apply.

4.4 Biological Resources

4.4.1 Flora and Fauna

The habitat type identified in the project site is a heavily developed, urban area.

There are several mammals that are adapted to urban habitats that were observed on the project site and, while not directly observed on or adjacent to the project site, may be found there. These include: shrews, moles, opossums, squirrels, rabbits, rats and mice, and raccoons. Birds potentially found on the property may include waterfowl, herons and egrets, hawks, woodpeckers, killdeer, flycatchers, blackbirds, thrushes, warblers, sparrows, hummingbirds, tits and chickadees, wrens, finches, Northern Mockingbirds, Northern Cardinals, Belted Kingfisher, Mourning Doves, Blue Jays, American Crows, and Ruby-Crowned Kinglets. Reptiles may include snakes, lizards and turtles. During a site visit on March 15, 2010, several species of fish were observed in the Cross Canal and the West Metairie Canal (Canal No. 5). Plant species observed included wild grasses and common roadside weeds and flowers along the canals.

The Fish and Wildlife Coordination Act (FWCA), as amended in 1964, was enacted to protect fish and wildlife when federal actions result in the control or modification of a natural stream or body of water. The statute requires federal agencies to take into consideration the effect that water-related projects would have on fish and wildlife resources; take action to prevent loss or damage to these resources; and provide for the development and improvement of these resources.

To comply with the requirements laid out in the statute, federal agencies must determine whether a proposed activity would result in the control or modification of a body of water. Typical actions that would fall under the jurisdiction of the Act include:

- discharges of pollutants, including industrial, mining, and municipal wastes or dredged and fill material into a body of water or wetlands; and
- projects involving construction of dams, levees, impoundments, stream relocation, and water-diversion structures.

If a proposed project would involve any of these activities or any other activity resulting in the control or modification of any water body for any purpose, then the federal agency must consult with the FWS (and National Marine Fisheries Service [NMFS], as appropriate) to develop measures to mitigate project-related losses of fish and wildlife resources.

The Bald Eagle, although officially de-listed as a threatened and endangered species on August 9, 2007, is protected under the Bald and Golden Eagle Act. The act states "that whomever takes, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or in any manner, any bald eagle commonly known as the American eagle, or any golden eagle, alive or dead, or any part, nest, or egg thereof of the foregoing eagles, or whoever violates any permit or regulation issued.." shall face criminal penalties. "Take" is further defined as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb" and "transport" includes "ship, convey, carry, or transport by any means whatever, and deliver or receive or cause to be delivered or received for such shipment, conveyance, carriage, or transportation."

Alternative 1- No Action: The No Action Alternative would have no effect on the existing flora and fauna at the project area.

Alternative 2 – Elmwood/Clearview Drainage Project (Proposed Action): The proposed retention ponds, drainage ditch improvements, and earthen berm would be constructed at heavily trafficked, highly developed area. In general, the effect to flora and fauna would be temporary and minimal. As stated previously, the FWCA requires the federal agency to consult with the USFWS. The applicant consulted with the USFWS and in a response dated February 5, 2009, the USFWS indicated that the proposed project would have no effect on Federal Trust Resources, including endangered species (see Appendix A).

4.4.2 Threatened and Endangered Species

The Endangered Species Act (ESA) of 1973 provides for the protection of all listed threatened and endangered species (Federal Trust Resources). It is unlawful "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect ..." any protected species. Harm is further defined by the USFWS to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, or sheltering.

Based on the highly developed, urban, environment in the project area, FEMA has determined that no suitable habitat for any endangered species listed in Jefferson Parish exists in the project area.

Alternative 1- No Action: The No Action Alternative would have no effect on endangered species.

Alternative 2 – Elmwood/Clearview Drainage Project (Proposed Action): The applicant consulted with the Louisiana Department of Wildlife and Fisheries (LDWF). In a response dated February 26, 2009, the LDWF indicated that "no other impacts to rare, threatened, or endangered species or critical habitats are anticipated for the proposed projects. No state or federal parks, wildlife refuges, scenic streams, or wildlife management areas are known at the specified site within Louisiana's boundaries." The applicant also consulted with the USFWS. In a response dated February 5, 2009, the USFWS indicated that the proposed project would have no effect on Federal Trust Resources", including endangered species (Appendix A).

A site visit was conducted on March 15, 2010, during which it was confirmed that no endangered species habitat exists within the project area. Therefore, FEMA has determined that the proposed action would have no affect on endangered species.

4.5 Cultural Resources

Section 106 of the National Historic Preservation Act (NHPA), as amended, and implemented by 36 CFR Part 800, requires federal agencies to consider the effects of their actions on historic properties and provide the Advisory Council on Historic Preservation (ACHP) an opportunity to comment on federal projects that would have an effect on historic properties prior to implementation. Historic properties are defined as archeological sites, standing structures, or other historic resources listed in or eligible for listing in the National Register of Historic Places (NRHP).

The two structures included in the project are a wood railroad bridge and a concrete box culvert. Both structures are younger than 50 years of age. Using the professional judgment of an architectural historian that meets the Secretary of Interior's Professional Qualifications Standards (36 Code of Federal Regulations [CFR] Part 61), FEMA concluded that neither structure meets the 50-year-criterion or criteria consideration G of the National Register guidelines to be considered eligible for the NRHP.

Alternative 1 – No Action: The No Action Alternative would have no effect on cultural resources.

Alternative 2 – Elmwood/Clearview Drainage Project (Proposed Action): The applicant consulted with the Louisiana State Historic Preservation Officer (SHPO). In a response dated January 30, 2009, the SHPO stated that "no known historic properties will be affected this undertaking. This effect determination could change should new information come to our attention."

Ground disturbing activities include the construction of approximately 2,100 feet of box culvert to replace the existing ditch. The Scope of Work also includes the construction of a 220 cfs pump station. Data provided by the SHPO indicates that there are no known archaeological sites within the project area and all work would occur within a previously disturbed area. The scope of work meets the criteria in FEMA's Programmatic Agreement (PA) dated August 17, 2009, Appendix A: Programmatic Allowances, Item I, Sections A, B and C. In accordance with this PA, FEMA is not required to consult with the SHPO where work performed meets these criteria.

4.6 Air Quality

The Clean Air Act (CAA) requires that states adopt ambient air quality standards in order to protect the public from potentially harmful amounts of pollutants. The EPA has designated specific areas as National Ambient Air Quality Standards (NAAQS) attainment or non-attainment areas. Non-attainment areas are any areas that do not meet the quality standard for a pollutant and attainment areas meet ambient air quality standards. According to the EPA and the

LDEQ, Jefferson Parish is an attainment area (EPA 2006 and LDEQ response letter dated February 23, 2009). Copies of the agency correspondence are presented in Appendix A.

Alternative 1- No Action: The No Action Alternative would have no impact on air quality.

Alternative 2 – Elmwood/Clearview Drainage Project (Proposed Action): Pollutant emissions from construction equipment may result in minor, temporary impacts to air quality in the area immediately surrounding the construction activity. Impacts primarily result from the following activities:

- Fugitive dust generated during construction operations; and
- Construction activities including the use of construction equipment involving:
  - Operation of equipment;
  - Movement of trucks containing construction materials;
  - Use of paving equipment;
  - Asphalt curing; and
  - Commuting of construction workers.

To ensure that the potential dust generation does not impact the surrounding area, BMPs such as using wetting agents, or cleaning equipment as they leave the site, would be used in all construction phases of the project. Construction vehicle emissions can be mitigated through operational controls (equipment idle reduction and control, engine preventive maintenance, or equipment operator training); fuel usage strategies (ultra-low sulfur diesel or bio-diesel); or equipment strategies (retrofit technologies, engine re-power or upgrades, or electrification).

No long term air quality impacts are expected.

4.7 Noise

Noise is generally described as unwanted sound. The project area is generally fully developed with residential and commercial structures, numerous roadway cross over or near the proposed project. There are numerous noise receptors within 500 feet of the proposed project. There are numerous residential and commercial properties in the immediate area. Existing noise consists primarily of traffic noise. Noise levels within and adjacent to the project area would increase during construction activities as a result of construction equipment and increased vehicular activity.

Comment [KHB8]: Say something about the noise environment as it current exists at the site.

Alternative 1- No Action: The No Action Alternative would have no impact on noise in the project area.

Alternative 2 – Elmwood/Clearview Drainage Project (Proposed Action): Construction of the earthen berm, the new pump station, and the drainage improvements of St. Peter's Ditch would

Comment [KHB9]: How does this impact noise? If it does, the impact would not be temporary, although it would not impact any sensitive receptors.

result in an increase in noise. The increase is expected to be temporary and would not affect any sensitive receptors.

4.8 Hazardous Materials

Hazardous wastes, as defined by the Resource Conservation and Recovery Act (RCRA), are "a solid waste, or combination of solid wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may (1) cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible or incapacitating reversible illness or (2) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported or disposed of or otherwise managed."

A database search revealed that there are no Voluntary Remedial Program (VRP) or Brownfield sites in or adjacent to the project area. Searches of numerous EPA and LDEQ solid and hazardous waste databases revealed several air pollutant emissions sites, surface water discharge sites, and sites having registered underground storage tanks near the project area, as would be expected in a heavily urbanized area; however, none of these sites appear to have impacted the project area. There are no debris sites within the project area.

Although scattered debris was observed during a site visit conducted on March 15, 2010, there were no hazardous materials observed at the proposed site.

Alternative 1- No Action: The No Action Alternative would not disturb any hazardous materials or create any potential hazard to human health.

Alternative 2 – Elmwood/Clearview Drainage Project (Proposed Action): Construction of the proposed earthen berm, the proposed new pump station, and the improvements to St. Peter's Ditch would not disturb any known hazardous materials or create any potential hazard to human health. If hazardous materials are unexpectedly encountered in the project area during the proposed construction operations, appropriate measures for the proper assessment, remediation, management and disposal of the contamination would be initiated in accordance with applicable federal, state, and local regulations. The contractor would be required to take appropriate measures to prevent, minimize, and control the spill of hazardous materials in the construction area.

The applicant consulted with the LDNR Office of Conservation. In a response dated March 16, 2009, the LDNR indicated that "a review of our computer records for the reference project area indicates no oil, gas, injection, or registered active water wells in the project area." Copies of the agency correspondence are presented in Appendix A.

4.9 Environmental Justice

Executive Order 12898, entitled "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," mandates that federal agencies identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of programs on minority and low-income populations.

Alternative 1- No Action: The No Action alternative would not have disproportionate impacts on minority or low-income populations.

Alternative 2 – Elmwood/Clearview Drainage Project (Proposed Action): The proposed action is not expected to have adverse or disproportionate impacts on minority or low-income populations. The applicant consulted with Jefferson Parish regarding economic and social concerns for the proposed project. In a response dated February 9, 2009, Jefferson Parish stated that proposed project "will present no adverse economic, environmental, or social effects or concerns." Copies of the agency correspondence are presented in Appendix A.

4.10 Public Safety and Traffic

The proposed site is located in a heavily developed, heavy traffic volume area.

Alternative 1- No Action: The No Action alternative would have no effect on traffic.

Alternative 2 – Elmwood/Clearview Drainage Project (Proposed Action): Construction at the proposed project site would have a temporary effect on traffic by increasing the number of heavy machinery vehicles on Earhart Expressway and Clearview Parkway and the interchanges between them and the side streets along St. Peter's Ditch. Construction traffic should be closely monitored and controlled as appropriate. All construction activities would be conducted in a safe manner in accordance with Occupational Safety and Health Act (OSHA) requirements. During construction activities, the construction site(s) would be fenced off to discourage trespassers.

5.0 CUMULATIVE IMPACTS

Cumulative impacts are those effects on the environment that result from the incremental effect of the action when added to past, present, and reasonably foreseeable future actions, regardless of what agency (federal or nonfederal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

The impact of Hurricane Katrina in Jefferson Parish resulted in either wind or flood damage to many structures. There have been other projects to repair other structures to pre-disaster condition with upgrades to codes and standards. In addition, the SELA project, which primarily deals with residential flooding, is currently underway.

Improvements from the proposed project could be considered for incorporation into the SELA project because more apartments and residential properties have been constructed recently and Jefferson Parish has long considered improving drainage in the 7th Ward residential area of Old Jefferson. The proposed project would require the minor soil excavation along the St. Peter's Ditch and the Cross Canal. In addition, minor soil excavation would be required to construct the new pump station The cumulative impact to the natural resources within Jefferson Parish would be small and not likely to adversely affect the Parish as a whole. The human environment of Jefferson Parish would be impacted by reducing the flood hazards in the Metairie, Louisiana

area. On a whole the human environment of Jefferson Parish would benefit by the project, and not significant adverse cumulative impacts would occur.

6.0 CONDITIONS AND MITIGATION MEASURES

Based upon the studies and consultations undertaken in this environmental assessment, several conditions and mitigation measures must be taken by the applicant prior to and during project implementation.

Environmental

- In order to minimize impacts to Waters of the U.S., the contractor is required to implement BMPs that meet the LDEQ permitting specifications for storm water discharge regulated under Section 402 of the CWA. This includes designing the site with specific construction measures to reduce or eliminate run-off impacts.

- Appropriate erosion control measures should be employed during the construction of the project to minimize any adverse effect on the surrounding environment.

- The contractor would be responsible for keeping all excavated areas periodically sprayed with water, all equipment maintained in good working order, and all construction vehicles would be limited to 15 mph to minimize pollution/fugitive dust. In addition, during the construction of the ponds, the contractor would be responsible for keeping the ponds covered during non-work hours to prevent water and air erosion of the ponds during rain events or high winds.

- This project may require a CUP from the LDNR. Determination of CUP requirements can be obtained through the submission of a completed CUP application to the LDNR. Projects may be coordinated by contacting LDNR at 225-342-7591 or 1-800-267-4019.

- If the project results in a discharge to waters of the state, submittal of a Louisiana Pollutant Discharge Elimination System (LPDES) application may be necessary.

- If the project results in a discharge of wastewater to an existing wastewater treatment system, that wastewater treatment system may need to modify its LPDES permit before accepting the additional wastewater.

- LDEQ has stormwater general permits for construction areas equal to or greater than one acre. It is recommended that the LDEQ Water Permit Division be contacted at (225) 219-3181 to determine whether the proposed improvements require one of these permits.

- All precautions should be observed to control nonpoint source pollution from construction activities.

- All precautions should be observed to protect the groundwater of the region.

- Please be advised that water softeners generate wastewaters that may require special limitations, depending on local water quality considerations. Therefore, if water system improvements include water softeners, the applicant is advised to contact the LDEQ Water Permits to determine if special water quality-based limitations will be necessary.

- If any of the proposed work is located in wetlands or other areas subject to the jurisdiction of the USACE, the USACE should be contacted directly to inquire about the possible necessity for permits. If a USACE permit is required, part of the application process may involve a water quality certification from LDEQ.

- The DOTD would mitigate the wetland being impacted by construction activities for this project by minimizing impacts as listed in the Department's Standard Specification and mitigate for lost wetland habitats by reseeding with the appropriate plants and seedlings. In addition, the DOTD would coordinate appropriate mitigation planned with the Corps of Engineers.

- The Louisiana Standard Specifications for Roads and Bridges, 2006 edition, requires that the contractor take certain measures toward reducing environmental (wetland) damages. The measures are described in, but not limited to, the following sections:

    1. Scope of Work - Section 104
    2. Control of Work – Section 105
    3. Legal Relations and Responsibility to Public – Section 107
    4. Clearing and Grubbing – Section 201
    5. Removal or Relocation of Structures and Obstructions – Section 202
    6. Excavation and Embankment – Section 203
    7. Temporary Erosion Control – Section 204

- Any changes or modifications to the proposed project would require a revised determination. Off-site locations of activities such as borrow, disposals, haul-and detour-roads and work mobilization site developments may be subject to the Department of the Army regulatory requirements and may have an impact to a Department of Army project.

- If any solid or hazardous wastes, or soils and/or groundwater contaminated with hazardous constituents are encountered during the project, notification to LDEQ's Single-Point-of-Contact (SPOC) at (225) 219-3640 is required. Additionally, precautions should be taken to protect workers from these hazardous constituents.

- In accordance with the Formosan Termite Initiative Act, (LA R.S. 3:3391.1 through 3391.13), the Louisiana Parish of Jefferson is under quarantine. The movement of wood or cellulose material, temporary housing, or architectural components (i.e. beams, doors, and other wood salvage from a structure) may not leave the quarantined parish without written authorization from the commissioner of the LDAF or his designee(s).

- Due care must be taken to locate any unregistered water wells in the project area. For pipelines and other underground hazards, please contact Louisiana One Call at 1-800-272-3020 prior to commencing operations.

- During and after the project, consideration must be given for the occurrence of a base flood inundation. At this time, consideration should also be given to the responsibility for clearing debris and keeping the area cleared so as not to interfere with its function."

- In order to assure compliance with Jefferson Parish requirements for the NFIP, and ensure that appropriate permits are obtained, please contact the floodplain administrator for Jefferson Parish. The contact person is: Mr. Tom Rodrigue, 1887 Ames Boulevard, Marrero, Louisiana, 70072, telephone number (504) 349-5360.

Public Safety and Traffic

- Construction traffic should be closely monitored and controlled as appropriate. All construction activities would be conducted in a safe manner in accordance with OSHA requirements. To alert motorists and pedestrians of project activities, appropriate signage and barriers should be used during construction. During construction activities, the construction site(s) would be fenced off to discourage trespassers.

Cultural Resources

- The applicant must comply with the Louisiana Unmarked Human Burial Sites Preservation Act (R.S. 8:671 et seq.) and the Inadvertent Discovery Clause, which can be found under the Environmental Review NHPA conditions. Any change to the approved scope of work would require reevaluation under Section 106.

- Furthermore, if archaeological artifacts or features (prehistoric or historic) are discovered during the course of FEMA funded work at the project site, the Applicant must ensure that their Contractor stops work in the vicinity of the discovery and takes all reasonable measures to avoid and minimize harm to the discovery. The Applicant shall inform the Governor's Office of Homeland Security and Emergency Preparedness (GOHSEP) and FEMA of the discovery, and FEMA would deploy an archaeologist to the location to conduct a site condition assessment. The Applicant would not proceed with work until FEMA has completed consultation with the SHPO on the treatment of the discovery.

- In addition, if human remains are discovered during the course of FEMA funded work, the Applicant and the Applicant's Contractor are responsible for immediately halting work within the vicinity of the human remains finding. The Applicant would immediately notify GOHSEP, FEMA, the local Police Department, and the local Coroner's Office of the discovery. The local Coroner's Office would assess the nature and age of the human skeletal remains. If the Coroner's Office determines that the human skeletal remains are older than 50 years of age, the Louisiana Division of Archaeology would take jurisdiction over the remains. Within twenty-four (24) hours, FEMA would notify the Louisiana Division of Archaeology (225-342-8170) of the finding. Within seventy-two (72) hours,

FEMA would take the lead in working with the Louisiana Division of Archaeology and other interested parties, as necessary, to ensure compliance with the Louisiana Unmarked Human Burial Sites Preservation Act (R.S. 8:671 *et seq.*) and other applicable laws. In addition, the Applicant must afford FEMA the opportunity to comply with the "Human Remains Policy" set forth by the ACHP.

Failure to comply with these conditions may make part or all of these projects ineligible for FEMA funding.

7.0 PUBLIC INVOLVEMENT

The public will be invited to comment on the proposed action. A legal notice was published in the following newspapers: The New Orleans Times-Picayune from 10/22/10 to 10/24/10. Additionally the Environmental Assessment was made available at the Jefferson Parish Library (Old Metairie Branch) – 2350 Metairie Road, Metairie, Louisiana 70001 from **09/22/10 to 10/06/10**.The Environmental Assessment was published on FEMA's and the Parish's official websites. A copy of the Public Notice is attached in Appendix C.

Deleted: *The New Orleans Times-Picayune* and the *Baton Rouge Advocate* from XXXXX to XXXXX, 2010. Additionally the Environmental Assessment was made available at the Jefferson Parish Public Library (Old Metairie Branch) from XXXXX to XXXXX, 2010.

8.0 AGENCY COORDINATION

U.S. Army Corps of Engineers
Louisiana Department of Environmental Quality
Louisiana Department of Natural Resources
Louisiana Department of Wildlife and Fisheries
Environmental Protection Agency
Louisiana Department of Agriculture and Forestry
Louisiana Coastal Resources Program
USDA Natural Resources Conservation Service
Louisiana State Historic Preservation Officer
US Fish and Wildlife Service

Comment [KHB10]: Write these out

Deleted: LFD¶

9.0 CONCLUSION

Based upon the studies and consultations undertaken in this environmental assessment, and given the precautionary and mitigating measures, there does not appear to be any significant environmental impacts associated with the proposed construction of the earthen berm, proposed new pump station, and the drainage improvements to the St. Peter's Ditch project in Metairie, LA. Therefore, the proposed action meets the requirements of a Finding of No Significant Impact (FONSI) under NEPA and the preparation of an Environmental Impact Statement (EIS) will not be required.

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APPENDIX A

AGENCY CORRESPONDENCE

APPENDIX B

8-STEP PROCESS AND HYDRAULIC AND HYDROLOGY STUDY

APPENDIX C

PUBLIC NOTICE